

REMARKS

In the Office Action, the Examiner rejected claims 1, 4, and 31 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,962,516 to Soezima and U.S. Reg. No. H589 issued to Sartore, claims 1, 4, 11, 16-17, 21-22, 24, 26-27, 29, 32, and 24 under §103(a) as being unpatentable over Soezima and in view of U.S. Patent No. 5,210,414 issued to Wallace et al., claims 6-7, 9, 18, 25, and 30 under §103(a) as being unpatentable over Soezima, Wallace et al. and further in view of U.S. Patent No. 5,703,361 issued to Sartore, claims 2, 8, 12, 14, 23, and 28 under §103(a) as being unpatentable over Soezima, Wallace et al, and further in view of U.S. Patent No. 5,926,522 issued to McCarthy et al. The rejections are fully traversed below. Reconsideration of the application is respectfully requested based on the following remarks.

Claims 1, 11, and 21-23 have been amended. New claims 35-42 have been added. Claims 15 and 24-30 have been cancelled without prejudice or disclaimer. Claims 1, 2, 4, 6-9, 11, 12, 14, 16-18, 21-23, 32, and 34-42 are now pending in this application.

PATENTABILITY OF CLAIMS

The inventions of claims 1, 11, and 37 pertain to an apparatus and techniques wherein a charged particle beam completely penetrates at least two layers of a film stack. In contrast, none of references teach or suggest a charged particle beam that completely penetrates at least two layers of a film stack. For instance, the electron beam in Sartore completely penetrates the first layer (the film layer) of the integrated circuit, however it only partially penetrates the second layer (the substrate). The electron beam in Sartore completely penetrates only the first layer because Sartore is directed at measuring the thickness of only the first layer.

With respect to Soezima, Soezima teaches the use of detectors 18 and 20 to take measurements for a single element, however Soezima does not teach or suggest a charged particle beam that completely penetrates at least two layers of a film stack.

With respect to Wallace et al., Wallace et al. teaches the measurement of X-rays at two depths within a solid particle. However, Wallace et al. does not teach or suggest a charged particle beam that completely penetrates at least two layers of a film stack.

It is submitted that Soezima, Sartore, Wallace et al., and McCarthy et al., alone or in any combination, do not teach or suggest the features of the claimed invention. These references lack any mention for the need of higher throughput rates when analyzing two or more layers of a

semiconductor specimen. Therefore, none of these references can fairly be said to suggest a combination of the respective teachings to obtain a technique where a charged particle beam completely penetrates at least two layers of a film stack. Therefore, it is submitted that claims 1, 11, and 37 are patentably distinct from the cited references.

It is submitted that dependent claims 2, 4, 6-9, 12, 14, 16-18, 21-23, 32, 34-36, and 38-42 are also patentably distinct from the cited references for at least the same reasons as those recited above for their corresponding independent claims. These dependent claims further recite additional limitations that further distinguish these dependent claims from the cited references. Thus, it is respectfully requested that the Examiner withdraw the rejection of claims 1, 2, 4, 6-9, 11, 12, 14, 16-18, 21-23, 32, and 34 under 35 U.S.C § 103(a).

SUMMARY

It is respectfully submitted that all pending claims are allowable and that this case is now in condition for allowance. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

If any fees are due in connection with the filing of this Amendment, the Commissioner is authorized to deduct such fees from the undersigned's Deposit Account No. 500388 (Order No. KLA1P012).

Respectfully submitted,
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